LANSA
Leveraging Agriculture for Nutrition in South Asia

RESEARCH BRIEF
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Farming Systems for Improved Nutrition in Bangladesh

International literature places great importance on nutrition sensitive agricultural interventions to improve health and nutrition; particularly in communities where potential for agricultural growth is promising. Despite this, little is understood about the ways in which agricultural interventions can be delivered to communities according to the needs of the communities. With this in mind, the Research and Evaluation Division (RED) at BRAC conducted this formative study with an aim to understand the perceptions and needs of local farming communities to promote agriculture for nutrition and the way of addressing their needs, given the existing programmatic framework of institution.

BRAC is a leading non-Governmental Organisation (NGO) that has been providing development interventions in different areas of Bangladesh to improve food security as well as nutrition through many different independent programmes such as the Health, Nutrition and Population Programme (HNPP), the Tenant Farmer Development Project (*Borgachashi Unayyon Project* – BCUP), and the Agriculture and Food Security Programme (AFSP) projects. The projects are large in scale and cover almost all divisions in the country. BCUP operates to provide credit for agricultural activities to small and marginalised farmers who either fully or partially cultivate land owned by others. AFSP also provides partial grants and credit along with extension services. HNPP delivers nutrition messages to vulnerable communities from a health perspective particularly on maternal and child health and feeding. There is scope for promoting agricultural interventions for nutrition within the existing framework of BRAC programmes but these interventions are not integrated. Communities may have their own perception and values that may provide useful information in the development of integrated intervention strategies, materials and instruments to ensure their effectiveness. The scope of this study is to address these issues and to uncover the perceptions of the community.

Mothers visiting BRAC local offices to avail HNPP services, Dinajpur, July 2014.
PHOTO: FAHMIDA/BRAC

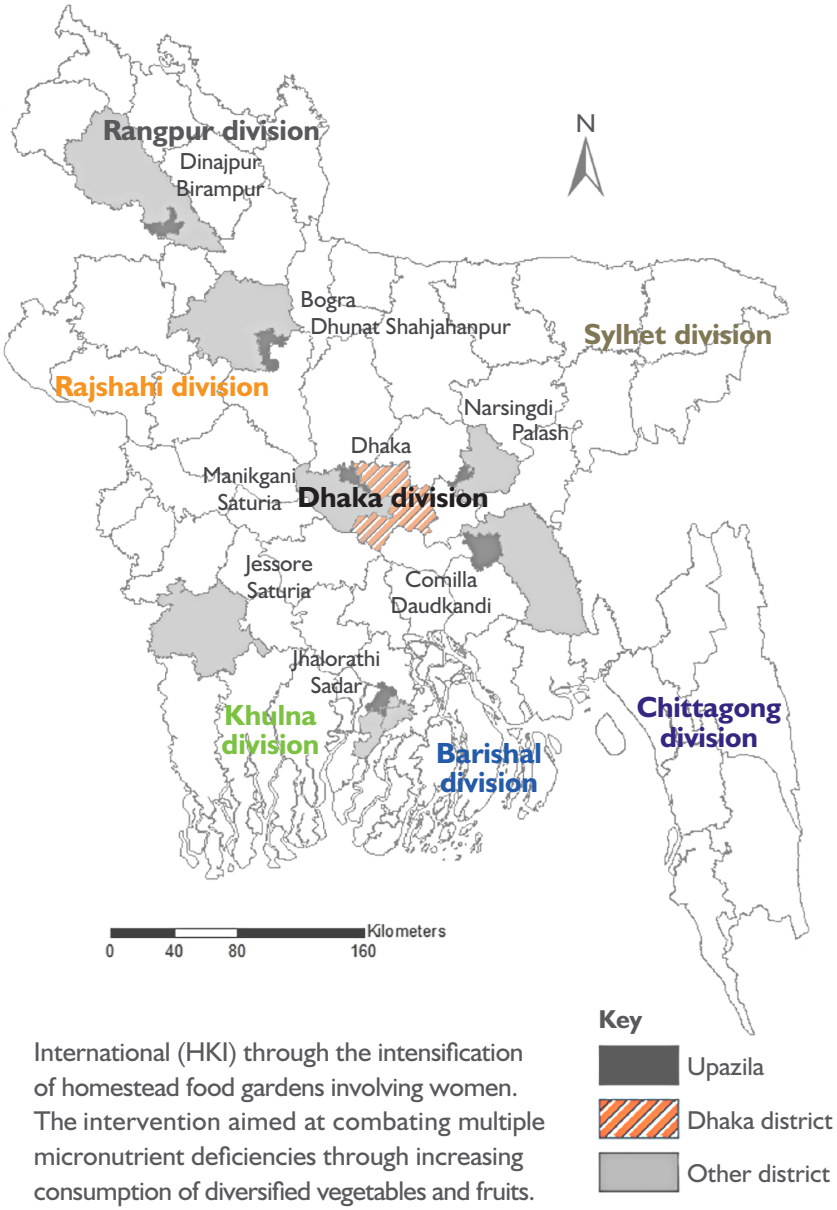
Study design and approach

The study was carried out in two steps: first, a review of the existing literature on agriculture-for-nutrition models in Bangladesh was carried out, in order to understand (i) the principles of promoting agriculture for better nutrition and (ii) the existing nutrition sensitive agriculture models beyond BRAC in Bangladesh. Secondly, an explorative study was conducted over a four-week period (July-Aug, 2014) in seven purposively selected upazilas from six districts across different divisions of Bangladesh (Figure 1). The research sites were selected by considering geographical diversity and the presence of BRAC interventions on agriculture credit and nutrition.

The districts chosen were Manikganj, Comilla, Dinajpur, Bogra, Jessore, Jhalokati and Narsingdi.

Several qualitative approaches were used, including focus group discussions (FGDs), in-depth interviews (IDIs) and field site observation. Focus Group Discussions were conducted to explore community perceptions of nutrition-sensitive agriculture, as well as their existing practices and needs in this area. Twelve FGDs were conducted, nine with female beneficiaries and three with male beneficiaries of BCUP and HNPP BRAC projects. In addition, in-depth interviews were conducted with three female beneficiaries to crosscheck if any additional information is shared by them at the individual level interview. To understand the possible ways of providing nutrition sensitive agriculture interventions using the existing framework of BRAC, 21 IDIs were conducted with the programme personnel at different levels such as programme heads (head office level), managers (regional and district level), branch managers of field offices (sub-district level), and front line service providers of both BCUP and HNPP projects. Further, the researchers observed the study areas to familiarise themselves with local crop management practices, production, programme services, and delivery mechanisms. Three pre-tested semi-structured checklists (one for FGDs with beneficiaries, one for IDIs with programme staff and one for observation) were used in collecting the relevant information and follow-up questions were asked when necessary to facilitate the conversations. Analysis of the interview notes was facilitated manually by organising the data into a matrix with different themes in alignment with the research objectives.

Figure 1 **Location of study areas**



Key findings

Principles of nutrition sensitive agriculture and existing approaches

A review of existing literature and nutrition-sensitive agriculture programme reports provides a list of suggested principles for these approaches. These principles highlight the importance of (i) contextual assessment, (ii) coordination of the relevant departments to implement integrated interventions, (iii) appropriate targeting and (iv) the presence of an enabling policy environment (Herforth 2013), as well as the need to target women (Herforth 2013, SPRING 2014, Bhattacharjee et al 2007).

Limited examples were found that truly leveraged agriculture for better nutrition in their intervention models. The main pro-nutrition agricultural intervention piloted in Bangladesh is the homestead food production (HFP) model of Helen Keller International (HKI) through the intensification of homestead food gardens involving women. The intervention aimed at combating multiple micronutrient deficiencies through increasing consumption of diversified vegetables and fruits. A number of evaluations of the model showed the positive impact on food security, diet quality, and livelihood and women empowerment. The USAID-funded project SPRING-Bangladesh adopted the Farmer Field School (FFS) model in collaboration with the government at a small scale where the connection between agriculture and nutrition has been defined as 'Own Production → Food Consumption Pathway' (SPRING 2014). In addition, the departments of the Ministry of Agriculture together with FAO jointly provided the example of targeting women and incorporating nutrition education, sanitation and hygiene messages into its agriculture intervention model (Bhattacharjee et al 2007).

Findings from community perspectives

Nutrition-sensitive agriculture: context, perceptions and practices

The findings from the explorative study indicated that the farming contexts within the study

areas are quite diverse with huge potential for improving nutrition. Rice cultivation is the common crop along with maize, potato, pulses or oil seeds. Homestead production included different types of vegetables, fruits, poultry and fish. Following the traditional norms and practices found in Bangladesh, the farm households shaped and used their subsistence farming for ensuring food security, and sourcing income.

Despite the diversity of the agricultural context in the study areas, the participants were not found to assess it through a nutrition lens. They gave priority to production of cereals to address hunger. The households practiced farming considering agro-ecological factors such as soil fertility, seasonality, market demand and so on. They engage in farming considering food safety rather than nutrition, but it has intuitively led them to source nutritious foods. Participants perceived that the foods produced from their own farms are safer than purchased foods because they think the purchased foods are grown, ripened or preserved using harmful chemicals, and formalin. A relevant local quote of a mother from Manikgonj is cited below:

> "You know, the foods available from the market are injected with poisons; consuming these foods people get attacked with diseases. Given this situation, own produced foods are safe to take. Therefore, we harvest the food ourselves and consume to survive and stay with good health" – **FGD Women, July 2014**

Community needs for services and feasible way of approaching the services

The research found that the meaning and significance of nutrition-sensitive farming has not yet been adequately conveyed to the farming communities. The beneficiaries of programme interventions who participated in this research said that it would be useful if they were taught and made to understand, methods of farming that would improve their nutritional needs. Most of the participants among the villagers and programme officials at the field level considered poor nutrition as an outcome of poverty, and suggested that the community services on farming and nutrition be combined with verbal counselling and provision of credit support. They suggested structuring sessions for knowledge building and improved practice through group meetings. They said that whatever counselling is done, it must include the senior and influential household members alongside the mothers. The range of needs mentioned by the participants within the boundary of their real experiences, knowledge and understanding have been highlighted in Figure 2.

↑ Informal conversation with local communities, Dinajpur, July 2014.
PHOTO: FAHMIDA/BRAC

The research participants from field level programmes stated that local farmers would be more convinced to grow nutritious crops if they thought these crops were profit making as well. Most of the programme officials at the field level thought that counselling should focus on the dual benefits of improving nutrition and market opportunities through farming because focussing solely on nutrition would not convince all local people equally. They also emphasised that the messages should be specific and few in number with clear and practical instructions, otherwise people may feel overwhelmed with lots of information that they cannot digest.

The literature review and the view of the participants presented two options of delivering nutrition sensitive farming messages: either (i) through a single channel (i.e. agriculture for nutrition promoter) or (ii) through two channels (one for agriculture and the other for nutrition) within a single platform. However, little is known which one will really work well in reaching out to the communities effectively, particularly within the context of Bangladesh as well as the BRAC programmatic framework.

Figure 2 **Common range of responses**

Farming	• Increase loan or reduce rate of interest • Advice & technical support on use of pesticide/insecticide • How to protect poultry from disease • Advice on fertilisation, irrigation, seed selection • Supply of good quality seeds • Information on agricultural technology for better cultivation • Information on timing of crop establishment and timing of fertilization & insecticide • Support for fencing farming land to protect from goats
Nutrition	• Practical demonstration for pregnant mothers on nutritious food • MNP distribution, particularly for mothers and children, free of cost • Delivery of soap, mug-bucket for hand wash for free as it was done before by HNPP • Advice on how to keep babies and family members sound and healthy • Information on nutritional benefits of different food items
Farming for nutrition	• Knowledge and awareness on nutrition-sensitive farming, for example, guidance on what they need & how they can make their farming more nutrition sensitive

Implications and recommendations

From the feedback and suggestions made by the beneficiaries and programme personnel who participated in the study, the following recommendations for interventions that improve nutrition outcomes through changing farming systems, were generated:

1. The intervention design, materials and strategies should focus precisely on nutrition sensitive farming production, consumption and market opportunities aligned with the local context.
2. Intervention materials should be developed in consultation with the relevant stakeholders who have already gathered experiences in implementing similar interventions such as programme departments of BRAC, government and other agencies like HKI, SPRING, and FAO.
3. Pilot testing of the intervention materials can be done at the community level to assess their acceptability and incorporate their feedback.
4. A pilot test of the refined messages on 'nutrition sensitive agriculture' can be done employing different approaches to identify the most feasible way of delivering the interventions, for example, :
    - Employing a single line service provider as 'agriculture for nutrition promoter' under a specific management level and monitoring cell.
    - Recruiting two service providers — one for nutrition-sensitive farming and the other for nutrition-specific messages — under a specific management level and monitoring cell.
    - Integrating the services into the existing delivery systems where the extension worker will provide services only on agriculture and the front line workers of health and nutrition programme will provide services for nutrition to the same households.
    - Once a feasible model of delivering the interventions is identified, a larger scale intervention trial can be undertaken to assess the impact and generate inputs for the policy framework for governments and other relevant institutions.

Credits

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Further reading

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LANSA is an international research partnership, exploring how agriculture and agri-food systems can be better designed to advance nutrition in South Asia. Led by MS Swaminathan Foundation, members include BRAC, Collective for Social Science Research, Institute of Development Studies, International Food Policy Research Institute and Leverhulme Centre for Integrative Research for Action on Health. LANSA is funded by the UK Government. The views expressed in this document do not necessarily reflect the UK Government's official policies.

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